

## **TROPICAL RAINFALL MEASURING MISSION**

**July 13, 1998 - July 19, 1998**  
**DOY 194-200**

### **TRMM MISSION OPERATIONS**

- TRMM is flying in the +X Forward direction as of 98-191, at 01:58 z.
- The next Yaw maneuver is scheduled for August 9 (221).
- The next Delta-V maneuver is scheduled for July 24 (205) using the LBS thrusters.
- CERES internal and solar calibrations are scheduled for July 29 (210).
- CERES Alongtrack operations are scheduled for July 22 (203).
- The Beta angle range for the week of July 20 - July 26 (201 - 207) is  $+39.1^{\circ}$  to  $+54.2^{\circ}$ .

### **TRMM SUBSYSTEM OPERATIONS**

#### **Attitude Control System**

Delta-V maneuver #34 was successfully conducted on 98-197 at 17:41:36 and 18:30:37, for durations of 59 and 26 seconds, respectively, using the LBS thrusters. The +Pitch (#2) off-modulation was 22.5% and 26.4%, respectively (77.5% and 73.6% on time). The remaining fuel is 823.628 kg and the final apogee and perigee height is 354.85 x 348.09 km.

The target SMA was exceeded by approximately 200 meters due to an error in the maneuver planning that resulted in a longer duration burn than was necessary. The total time outside the target was approximately 21 hours.

The ESA experienced Moon interference in quadrants 2 and 4 during this week's period and Sun interference in quadrants 1 and 3. The ACS performed nominally during the transition between 3 and 4 head control with only occasional reaction wheel limiting.

#### **Flight Data System (FDS)/Command & Data Handling (C&DH)**

The Frequency Standard continues to drift in the negative direction. The frequency value remains at x72f. The current drift rate is  $-1.13 \mu\text{s/hr}$ .

The UTCf remains at 31535997.882141 seconds. The current drift value is  $-601 \mu\text{s}$ .

A Q-Channel Restart occurred on 98-196 at 21:29z.

EDAC Multi Bit errors were received on 98-195 at 02:57z, on 98-197 at 07:57z on 98-199 at 09:59z, 16:48z, and 16:52z, and on 98-200 at 22:06z and 22:15z.

An occurrence of an Invalid Stream ID received from XS (spacecraft bus) was logged on 98-199 at 21:04z and is being tracked under the original anomaly report #26 (due to VIRS).

FOT dwell monitoring revealed that a Flywheel condition occurred on 98-197.

### **Reaction Control Subsystem (RCS)**

The RCS subsystem performed nominally during this period. See the ACS section for Delta-V information.

### **Power Subsystem**

Orbits that do not reach trickle charge (both batteries at 100% SOC) continue to occur. Code 563 and the FOT continues to monitor the power subsystem closely.

Battery-2 Cell-1 is still reaching YH limits 1.50 V to 1.52 V.

### **Electrical Subsystem**

The Electrical subsystem operated nominally during this period.

### **Thermal Subsystem**

The Thermal subsystem operated nominally during this period.

### **Deployables Subsystem**

The Deployables subsystem performed nominally during this period.

### **RF/Communications Subsystem**

The RF/Communications subsystem has performed nominally during this time.

A dropout was experienced in the Return Link on 98-194. The cause is unknown at this time.

## **SPACECRAFT INSTRUMENTS**

### **CERES**

The CERES Instrument performed nominally while executing its normal sequence of Crosstrack/Biaxial commanding. CERES operated in restricted Biaxial scan mode on 98-194 and unrestricted Biaxial scan mode on 98-197 and 98-200. CERES was placed in Contamination Safe on 98-197 prior to each of the two Delta-V burns.

Special Internal Calibrations were performed on 98-197 and 98-198. They were scheduled during orbit shadow (eclipse) and orbit Sunlight including the use of the abbreviated internal calibration for the first time. A set of calibrations were planned on both a Biaxial and a Crosstrack operation day.

Internal Calibrations		Solar Calibrations	
<u>Date</u>	<u>Time</u>	<u>Date</u>	<u>Time</u>
July 15 (196)	13:39:00	July 15(196)	11:48:10
July 16 (197)	06:26:00	N/A	N/A
July 16 (197)	08:50:00	N/A	N/A
July 16 (197)	12:40:00	N/A	N/A
July 16 (197)	14:55:00	N/A	N/A
July 17 (198)	03:50:00	N/A	N/A
July 17 (198)	06:08:00	N/A	N/A
July 17 (198)	08:30:00	N/A	N/A
July 17 (198)	10:45:00	N/A	N/A
July 17 (198)	12:55:00	N/A	N/A
July 17 (198)	15:20:00	N/A	N/A

**LIS**

LIS performed nominally during this time period.

**PR**

PR performed nominally during this time period.

PR performed an Internal Calibration on 98-196 at 03:00:00z and during Australia Interference regions.

**TMI**

TMI performed nominally during this time period.

**VIRS**

VIRS performed nominally during this time period. The heaters were toggled on 98-195 from 8.5 W to 15 W due to a Blackbody temperature of 1.82°.

VIRS warning messages continue to occur, including #20 which caused a software bus error (see FDS section).

**GROUND SYSTEM**

A correction to last week: The new version of GSOC does not account for earth occultation and shadowing effects. It used to and was purposely changed to more accurately model what the spacecraft does (not account for the earth).

Events with Wallops and Santiago have been scheduled for 98-205 to further test the IP network.

**EVENT REPORTS**

#52 Return Link Dropout.

**ANOMALIES**

No new Anomaly Reports were written during this time.

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